County of Loudoun

Office of Transportation Services

MEMORANDUM

DATE: October 13, 2009

TO: Sophia Fisher, Project Manager, Department of Planning

FROM: George Phillips, Senior Transportation Planner GP

SUBJECT: SPEX 2009-0028 Arris Montessori School
First Referral

Location: Located at 44675 Cape Court, west of Loudoun County Parkway, approximately 2,500 feet north of Waxpool Road in Ashburn ***(Attachment 1)***

Background

This Special Exception (SPEX) application proposes a private school with up to 175 students and a child care facility in the PD-IP Zoning District. The building for the proposed use is already constructed and approved for office use. The proposed school would occupy 12,300 square feet of the building. This review is based on materials received from the Department of Planning on September 15, 2009, including (1) a statement of justification dated August 4, 2009, (2) a special exception plat revised September 14, 2009 from Bowman Consulting Group, Ltd. and (3) a traffic study dated June 22, 2009 from Wells & Associates.

Existing, Planned and Programmed Transportation Facilities

According to the Revised General Plan, the site is located within the Suburban Policy Area (Ashburn Community). Major roadways serving the site are described below. OTS' review of existing and planned transportation facilities is based on the

2001 Revised Countywide Transportation Plan (2001 Revised CTP) and the 2003 Bicycle & Pedestrian Mobility Master Plan (2003 Bike & Ped Plan)

Loudoun County Parkway - is a controlled access, minor arterial constructed for the most part as a four-lane median divided facility between Route 7 and Route 625 and as a six-lane divided road between Route 625 and the Dulles Greenway. There is a short two-lane segment between Gloucester Parkway and Redskins Drive. A traffic signal is in place at the Loudoun County Parkway/Route 625 intersection. Separate left-turn and right-turn lanes are in place at the Cape Court intersection which is unsignalized. The 2001 Revised CTP calls for the Loudoun County Parkway to be a controlled access, six-lane divided arterial with a 120-foot right-of-way, a 50-mile per hour design speed, 900 foot median crossover spacing and turn lanes at all intersections. Adequate right-of-way already exists to accommodate widening Loudoun County Parkway to six lanes in Beaumeade when necessary. Although there are no 2008 VDOT counts for this segment of the Loudoun County Parkway, applying the K factor to the applicant's peak hour traffic count indicates that this road segment in the vicinity of Beaumeade Circle carries approximately 12,875 daily vehicle trips.

The 2003 Bike and Ped Plan categorizes Loudoun County Parkway as a "baseline connecting roadway" along which bicycle and pedestrian facilities are envisioned. In the vicinity of the site, there is currently an asphalt multi-use trail on the west side of Loudoun County Parkway from Beaumeade Circle (North) south to Cape Court.

Cape Court – is an existing urban two-lane undivided roadway which provides direct access to the site. It is a private street with direct access to Loudoun County Parkway at an unsignalized intersection. It terminates in a cul-de-sac approximately 600 feet west of Loudoun County Parkway. There are no plans to widen this road. Applying the K factor to the peak hour traffic counts from the applicant's traffic study, it is estimated that this road segment carries approximately 1,300 daily vehicle trips.

There are no sidewalks or other pedestrian facilities along any portion of Cape Court.

Existing Traffic Volumes and Level-of-Service (LOS)

The applicant's traffic study provides existing traffic volumes in Figure 1 (***Attachment 2***) and LOS in Table 1 (***Attachment 3***). The LOS analysis for the existing condition indicates that the unsignalized Loudoun County Parkway/Cape Court intersection operates at an acceptable LOS, (LOS B during both peak hours for the eastbound left turn movement from Cape Court onto Loudoun County Parkway and LOS A during both peak hours for the northbound left turn movement west onto Cape Court.)

Background Traffic and Level-of-Service (LOS)

Under background conditions (i.e., without the proposed development but assuming occupancy of the balance of square footage in the condominium building with approximately 12,000 square feet of office uses and 48 additional students in the approved Ideal Schools facility), the applicant's traffic study in Table 1 (***Attachment 3***) indicates that the unsignalized Loudoun County Parkway/Cape Court intersection would operate at an acceptable LOS, (LOS B during the A.M. peak hour and LOS C during the P.M. peak hour for the eastbound left turn movement from Cape Court onto Loudoun County Parkway and LOS A during both peak hours for the northbound left turn movement west onto Cape Court.). The background traffic volumes are shown on Figure 2 (***Attachment 4***).

Trip Generation

Based on information included in the traffic study in Table 3 ***(Attachment 5)***, the proposed private school will generate 178 A.M. peak hour, 107 P.M. peak hour and 434 daily vehicle trips. However, the applicant indicates that child care will also be provided which does not appear to be included in the traffic study. Assuming 12,300 square feet of office uses in the same space, ITE 7th Edition trip rates for Office generate 35 A.M. peak hour, 93 P.M. peak hour and 266 daily vehicle trips. The proposed use represents an increase of 143 A.M. peak hour, 14 P.M. peak hour and 168 daily vehicle trips when compared to the approved uses for this site.

Trip Distribution

The applicants traffic study notes that, based on existing traffic data, the local road network and engineering judgment that 35% of the site traffic will access from the

north on Loudoun County Parkway and 65% would approach from the south on Loudoun County Parkway (***Attachment 4***).

Forecasted Level-of-Service

For total future conditions which includes the proposed development as shown in Table 1 (***Attachment 3***), the unsignalized Loudoun County Parkway/Cape Court intersection would continue to operate at acceptable LOS (LOS C during both peak hours for the eastbound left turn movement from Cape Court onto northbound Loudoun County Parkway, LOS B during the A.M. peak hour for the northbound left turn movement from Loudoun County Parkway onto westbound Cape Court, and LOS A for the same northbound to westbound movement during the P.M. peak hour. The total future peak hour traffic forecasts are included in Figure 2 (***Attachment 4***).

Transportation Comments

1. Based on information included in the application, child care is proposed with this application. Yet, the trip generation data provided in the applicant's traffic study does not appear to include these additional trips. Thus the traffic may be undercounted and the LOS analysis inaccurate. Child care uses would likely produce trips that coincide with the A.M. and P.M. peak hour, requiring a revised analysis. Please clarify why the trip generation for the child care was not provided and confirm the hours of operation and capacity of the child care facility.

2. The applicant needs to ensure that adequate parking and appropriate vehicle circulation is available for the proposed uses given the existing zoning and businesses adjacent to this site. This needs to be verified by appropriate Building & Development staff.

3. The applicability of Route 28 Tax District payments for the proposed use needs to be confirmed. If applicable, a condition of approval consistent with the condition language included with the Ideal Schools application (SPEX 2008-0020) is recommended.

RECOMMENDATION

OTS has no recommendation at this time. Further clarification is needed regarding the above issues. OTS staff is available to meet with Department of Planning staff and the applicant to discuss.

ATTACHMENTS

1. Site Vicinity Map
2. Existing Lane Use/Traffic Control and Existing Peak Hour Traffic Counts (Figure 1)
3. Peak Hour Intersection LOS (Table 1)
4. Background, Site Generated, and Total Future Traffic Information (Figure 2)
5. Background Trip Generation (Table 2) and Site Trip Generation (Table 3)

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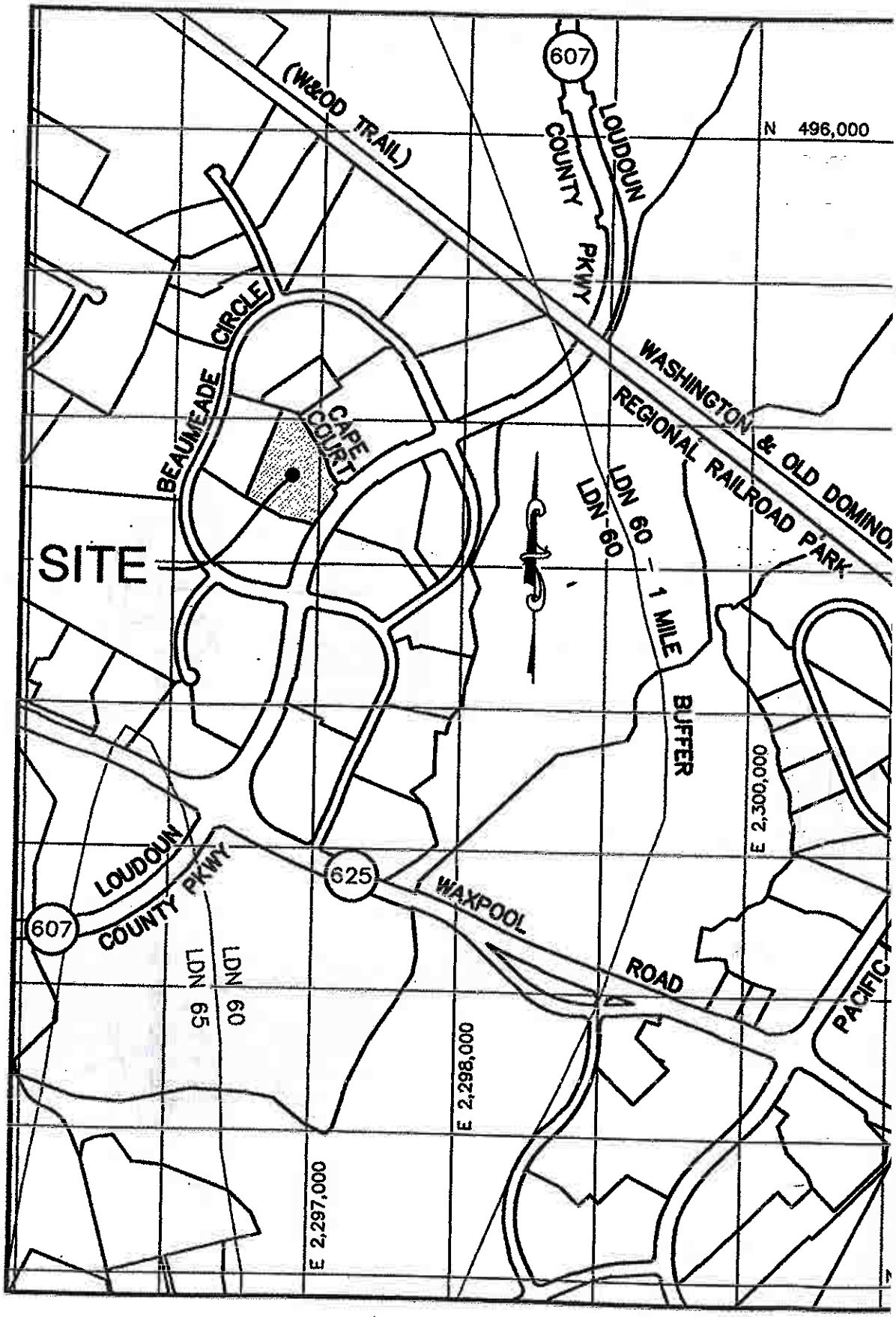
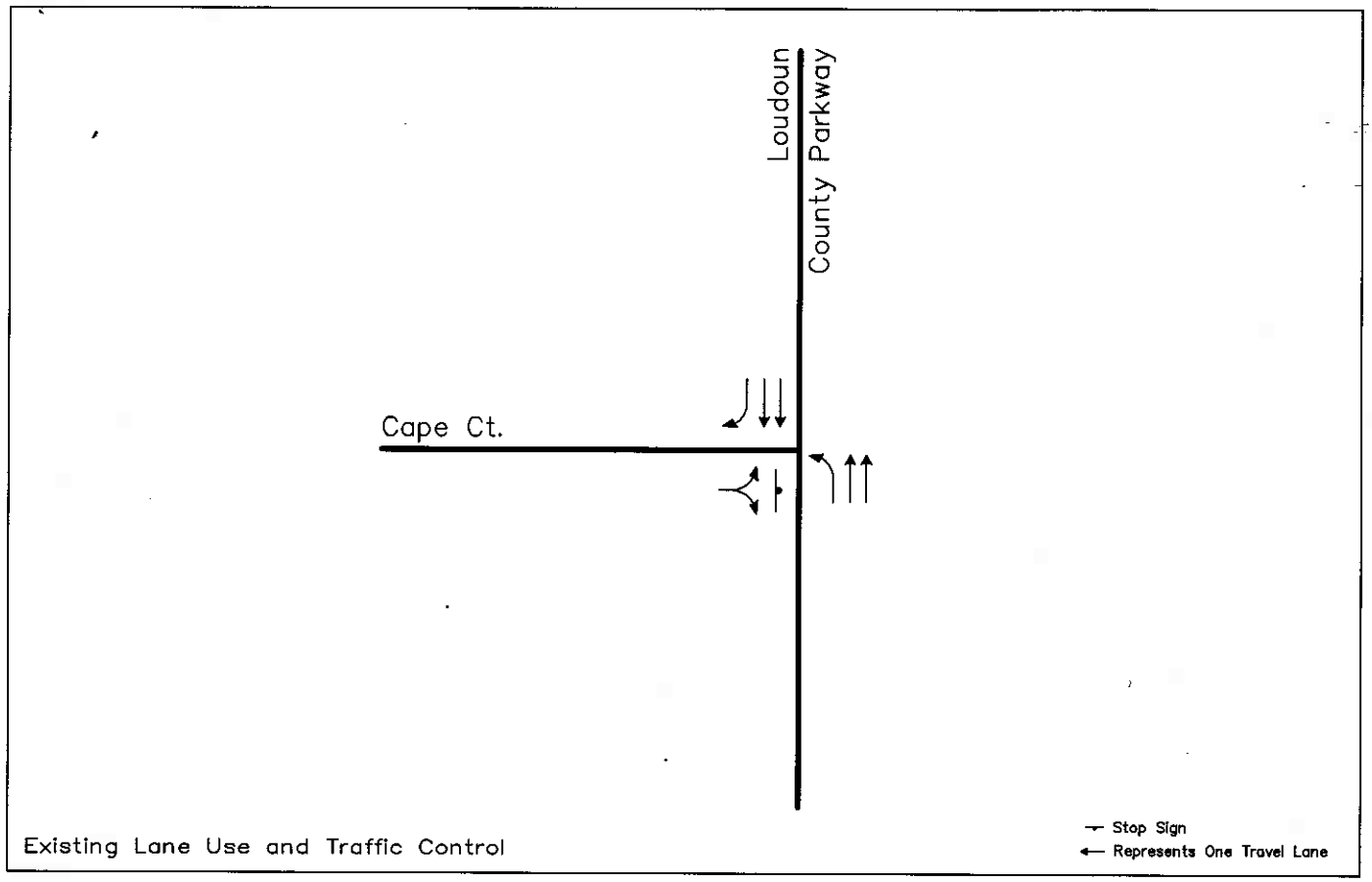
cc: Andrew Beacher, Assistant Director, OTS
Lou Mosurak, Senior Coordinator, OTS



VICINITY MAP

SCALE: 1"= 1,000'



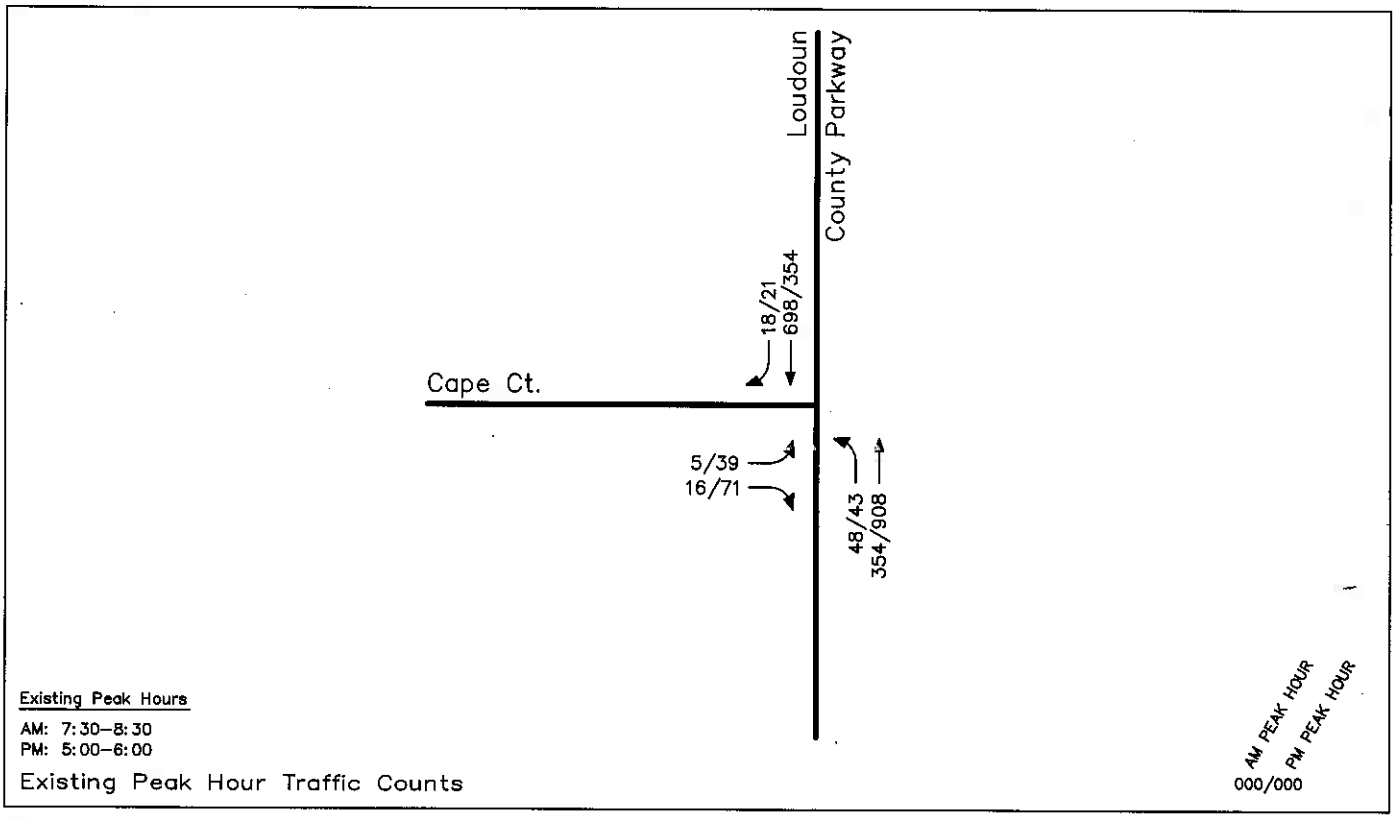


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Figure 1

North

Arris Montessori School
Loudoun County, Virginia

Wells + Associates, INC

ATTACHMENT 2

Table I

Arris Montessori School

Peak Hour Intersection Levels of Service[(1)]

Intersection/Link	Control	Approach/ Movement	Existing Conditions AM	Existing Conditions PM	Background AM	Background PM	Total Future AM	Total Future PM
Route 607 (Loudoun County Parkway)/	STOP	EBLR	B [12.4]	B [13.0]	B [13.4]	C [15.2]	C [17.4]	C [18.8]
Cape Court		NBL	A [9.6]	A [8.3]	A [9.9]	A [8.3]	B [10.6]	A [8.5]

Note:

(1) Numbers in brackets [ ] indicate delay in seconds per vehicle for stop-controlled intersections.

ATTACHMENT 3

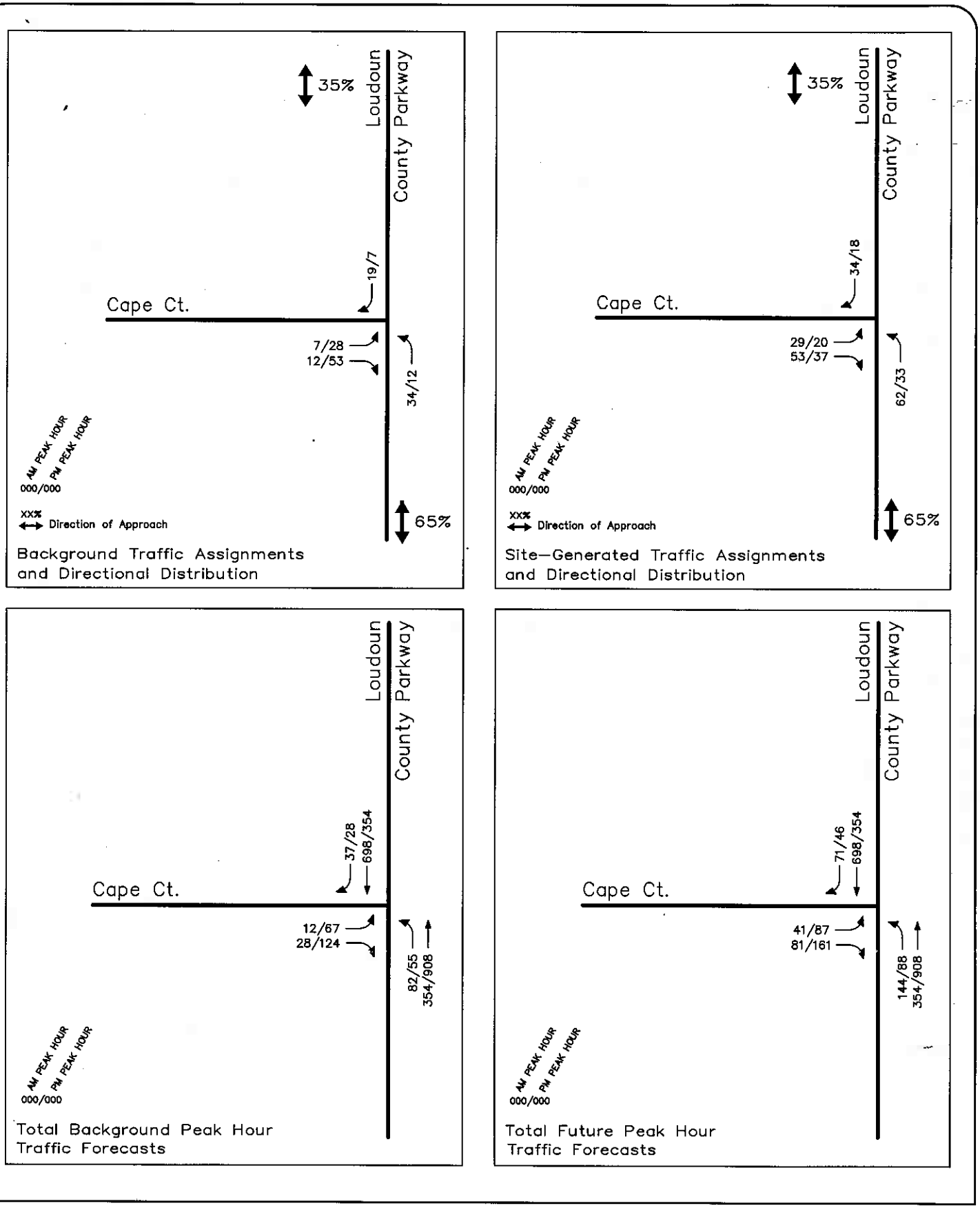

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Figure 2

North

Arris Montessori School
Loudoun County, Virginia

Wells + Associates, INC

ATTACHMENT 4

Table 2

Arris Montessori School

Background Trips

Land Use Options	ITE [1] Code	Amount	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Average Daily Traffic
Office	710	11,790	SF	30	4	34	16	76	92	257
Ideal Schools	536	48	Students	23	15	38	3	5	8	119
Total Background Trips				**53**	**19**	**72**	**19**	**81**	**100**	**376**

Note: (1) Trip estimates based on rates and equations published in the Institute of Transportation Engineers Trip Generation, 8th Edition.

Table 3

Arris Montessori School

Site Trip Generation Comparison

Land Use	ITE[1] Code	Amount	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Average Daily Traffic
Private School[2,3]	534	175	Students	96	82	178	50	57	107	434
			Rate	0.55	0.47					

Notes:

(1) Trip estimates based on rates and equations published in the Institute of Transportation Engineers Trip Generation, 8th Edition

(2) AM Peak hour reflects independent trip rates collected by W+A which reflects higher trips than ITE. PM Peak hour reflects peak hour of generator which would occur before the commuter PM peak hour.

(3) ADT rate from ITE Land Use Code 536 (Private School K-12).